What is claimed is:

1. An apparatus for outputting a signal, wherein the signal for a data communication apparatus is output to the data communication apparatus in a constant total output amount of the signal per a unit time and output of the signal is stopped during a certain time of stopping output of the signal, the apparatus comprising a signal output schedule setter for setting a signal output schedule for each of the unit time by defining a certain output amount of the signal out of the total output amount of the signal per the unit time as a first output group and further defining a difference between the total output amount of the signal per the unit time and the output amount of the signal in the first output group as at least more than one second output group, and when an output delay signal, which is not output within a specific unit time, is caused by stopping output due to at least partial overlapping of the specific unit time and the time of stopping output of the signal, and therefore the total output amount of the signal in the specific unit time is reduced, for setting the signal output schedule for outputting the output delay signal, which is not output within the specific unit time, in another unit time following the specific unit time by reducing the output amount of the signal in at least one second output group in the other unit time.

2. The apparatus for outputting the signal of Claim 1, further comprising:

a signal generator for generating the signal;

a signal storing unit for storing the output delay signal, which is not output within the specific unit time in which output is originally scheduled by the signal output schedule setter by stopping output due to at least partial overlapping of the specific unit time and the time of stopping output of the

signal, out of the signals generated by the signal generator; and

a measuring unit for measuring a stored amount of the output delay signal stored by the storing unit,

wherein the signal output schedule setter reduces the output amount of the signal in at least one second output group in the other unit time following the specific unit time in which the output delay signal is originally scheduled to be output and sets the signal output schedule for outputting the output delay signal in the other unit time, based on the stored amount of the signal measured by the measuring unit.

3. The apparatus for outputting the signal of Claim 1, further comprising:

a signal generator for generating the signal; and

a measuring unit for measuring a signal amount of the output delay signal, which is not output within the specific unit time in which output is originally scheduled by the signal output schedule setter by stopping output due to at least partial overlapping of the specific unit time and the time of stopping output of the signal, out of the signals which have not been generated by the signal generator,

wherein the signal output schedule setter reduces the output amount of the signal in at least one second output group in the other unit time following the specific unit time in which the output delay signal is originally scheduled to be output and sets the signal output schedule for outputting the output delay signal in the other unit time based on the signal amount of the output delay signal measured by the measuring unit.

4. The apparatus for outputting the signal of Claim 2, wherein the signal output schedule setter defines a part of the output delay signal as a first group

signal for being output in the first output group and a remaining part of the output delay signal as a second group signal for being output in the second output group, and sets the signal output schedule for outputting the first group signal in the other unit time by reducing the output amount of the signal in at least one second output group in the other unit time.

5. An apparatus for outputting a signal, wherein the signal for a data communication apparatus is output to the data communication apparatus in a constant total output amount of the signal per a unit time and output of the signal is stopped during a certain time of stopping output of the signal, the apparatus comprising a signal output schedule setter for setting a signal output schedule for each of the unit time by defining a certain output amount of the signal out of the total output amount of the signal per the unit time as a first output group and further defining a difference between the total output amount of the signal per the unit time and the output amount of the signal in the first output group as at least more than one second output group, and when an output delay signal, which is not output within the specific unit time, is caused by stopping output due to at least partial overlapping of the unit time and the time of stopping output of the signal and the total output amount of the signal in the specific unit time is reduced, setting the signal output schedule by defining the output amount of the signal equivalent to the output amount of the signal in the first output group out of the total output amount of the signal of no reduction as the first output group out of a reduced total output amount of the signal in the specific unit time and defining a difference between the reduced total output amount of the signal and the output amount of the signal in the first output group as at least one second output group.

6. The apparatus for outputting the signal of Claim 5, wherein the signal output schedule setter sets, when the total output amount of the signal in the specific unit time is reduced, before the time of stopping output of the signal, the signal output schedule by defining the output amount of the signal equivalent to the output amount of the signal in the first output group out of the total output amount of the signal of no reduction as the first output group out of a reduced total output amount of the signal in the specific unit time and defining a difference between the reduced total output amount of the signal and the output amount of the signal in the first output group as at least one of the second output groups.

7. The apparatus for outputting the signal of Claim 1 connected to a plurality of data communication apparatuses via a plurality of transmission lines, wherein a data transmission permitting signal for permitting data transmission from each of the data communication apparatuses is output to each of the data communication apparatuses, and wherein the signal output schedule setter sets a signal output schedule for outputting the data transmission permitting signal.

8. The apparatus for outputting the signal of Claim 7, wherein an adjusting amount for adjusting a difference in data transmission time due to a difference in a length of the transmission line of each of the data communication apparatuses is measured, and wherein output of the data transmission permitting signal is stopped during the time for measuring the adjusting amount for one of the data communication apparatuses as the time of stopping output of the signal.

9. The apparatus for outputting the signal of Claim 1 for outputting the

signals to a plurality of data communication apparatuses, wherein the signal output schedule setter defines a sum of a minimum guaranteed output amount which should be output to each of the data communication apparatuses at least within a unit time as the output amount of the signal in the first output group.

10. The apparatus for outputting the signal of Claim 1 for outputting the signals to a plurality of data communication apparatuses, wherein the signal output schedule setter sets various priorities to the signal output to each of the data communication apparatuses, and defines a sum of output amount of the signal to which higher priority than a determined level is set as the output amount of the signal in the first output group.

11. A method for outputting a signal, wherein the signal for a data communication apparatus is output to the data communication apparatus in a constant total output amount of the signal per a unit time and output of the signal is stopped during a certain time of stopping output of the signal, the method comprising signal output schedule setting for setting a signal output schedule for each of the unit time by defining a certain output amount of the signal out of the total output amount of the signal per the unit time as a first output group and further defining a difference between the total output amount of the signal per the unit time and the output amount of the signal in the first output group as at least more than one second output group, and when an output delay signal, which is not output within a specific unit time, is caused by stopping output due to at least partial overlapping of the unit time and the time of stopping output of the signal, and therefore the total output amount of the signal in the specific unit time is reduced, for setting the signal output schedule for outputting the output delay signal, which is not output

within the specific unit time, in another unit time following the specific unit time by reducing the output amount of the signal in at least one second output group in the other unit time.

12. The method for outputting the signal of Claim 11, further comprising:

signal generating for generating the signal;

signal storing for storing the output delay signal, which is not output within the specific unit time in which output is originally scheduled by signal output schedule setting by stopping output due to at least partial overlapping of the specific unit time and the time of stopping output of the signal, out of the signals generated by signal generating; and

measuring for measuring a stored amount of the output delay signal stored by storing,

wherein signal output schedule setting reduces the output amount of the signal in at least one second output group in the other unit time following the specific unit time in which the output delay signal is originally scheduled to be output and sets the signal output schedule for outputting the output delay signal in the other unit time, based on the stored amount of the signal measured by measuring.

13. The method for outputting the signal of Claim 11, further comprising:

signal generating for generating the signal; and

measuring for measuring a signal amount of the output delay signal, which is not output within the specific unit time in which output is originally scheduled by signal output schedule setting by stopping output due to at least partial overlapping of the specific unit time and the time of stopping output of the signal, out of the signals which have not been generated in signal

generating,

wherein signal output schedule setting reduces the output amount of the signal in at least one second output group in the other unit time following the specific unit time in which the output delay signal is originally scheduled to be output and sets the signal output schedule for outputting the output delay signal in the other unit time based on the signal amount of the output delay signal measured by measuring.

14. A method for outputting a signal, wherein the signal for a data communication apparatus is output to the data communication apparatus in a constant total output amount of the signal per a unit time and output of the signal is stopped during a certain time of stopping output of the signal, the method comprising signal output schedule setting for setting a signal output schedule for each of the unit time by defining a certain output amount of the signal out of the total output amount of the signal per the unit time as a first output group and further defining a difference between the total output amount of the signal per the unit time and the output amount of the signal in the first output group as at least more than one second output group, and when an output delay signal, which is not output within the specific unit time, is caused by stopping output due to at least partial overlapping of the unit time and the time of stopping output of the signal and the total output amount of the signal in the specific unit time is reduced, for setting the signal output schedule by defining the output amount of the signal equivalent to the output amount of the signal in the first output group out of the total output amount of the signal of no reduction as the first output group out of a reduced total output amount of the signal in the specific unit time and defining a difference between

the reduced total output amount of the signal and the output amount of the signal in the first output group as at least one second output group.

15. The method for outputting the signal of Claim 11 communicating with a plurality of data communication apparatuses via a plurality of transmission lines, wherein a data transmission permitting signal for permitting data transmission from each of the data communication apparatuses is output to each of the data communication apparatuses, and wherein signal output schedule setting sets a signal output schedule for outputting the data transmission permitting signal.

16. The method for outputting the signal of Claim 15, wherein an adjusting amount for adjusting a difference in data transmission time due to a difference in a length of the transmission line of each of the data communication apparatuses is measured, and wherein output of the data transmission permitting signal is stopped during the time for measuring the adjusting amount for one of the data communication apparatuses as the time of stopping output of the signal.

17. A computer-readable storage medium storing a computer-executable program for operating a computer to output a signal for a data communication apparatus to the data communication apparatus in a constant total output amount of the signal per a unit time and to stop output of the signal during a certain time of stopping output of the signal, the computer-executable program comprising:

signal output schedule setting code segment for setting a signal output schedule for each of the unit time by defining a certain output amount of the signal out of the total output amount of the signal per the unit time as a first

output group and further defining a difference between the total output amount of the signal per the unit time and the output amount of the signal in the first output group as at least more than one second output group; and

when an output delay signal, which is not output within a specific unit time, is caused by stopping output due to at least partial overlapping of the unit time and the time of stopping output of the signal, and therefore the total output amount of the signal in the specific unit time is reduced, for setting the signal output schedule for outputting the output delay signal, which is not output within the specific unit time, in another unit time following the specific unit time by reducing the output amount of the signal in at least one second output group in the other unit time.

18. A computer-readable storage medium storing a computer-executable program for operating a computer to output a signal for a data communication apparatus to the data communication apparatus in a constant total output amount of the signal per a unit time and to stop output of the signal during a certain time of stopping output of the signal, the computer-executable program comprising:

signal output schedule setting code segment for setting a signal output schedule for each of the unit time by defining a certain output amount of the signal out of the total output amount of the signal per the unit time as a first output group and further defining a difference between the total output amount of the signal per the unit time and the output amount of the signal in the first output group as at least more than one second output groups; and

when an output delay signal, which is not output within the specific unit time, is caused by stopping output due to at least partial overlapping of

the unit time and the time of stopping output of the signal and the total output amount of the signal in the specific unit time is reduced, setting the signal output schedule by defining the output amount of the signal equivalent to the output amount of the signal in the first output group out of the total output amount of the signal of no reduction as the first output group out of a reduced total output amount of the signal in the specific unit time and defining a difference between the reduced total output amount of the signal and the output amount of the signal in the first output group as at least one second output group.

19. The apparatus for outputting the signal of Claim 3, wherein the signal output schedule setter defines a part of the output delay signal as a first group signal for being output in the first output group and a remaining part of the output delay signal as a second group signal for being output in the second output group, and sets the signal output schedule for outputting the first group signal in the other unit time by reducing the output amount of the signal in at least one second output group in the other unit time.